

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1           1. (Currently amended) A method for creating a plurality of queues ~~using~~  
2       within a shared data buffer, the method comprising:  
3           providing a plurality of pointers to the data buffer, each pointer associated  
4       with an area of the buffer; and  
5           creating a given queue in the plurality of queues by associating a given  
6       pointer from the plurality of pointers with the given queue;  
7           wherein a given area of the data buffer can be assigned to the given queue  
8       and then reassigned to a different queue in the plurality of queues at a later time.

1           2. (Original) A method according to claim 1, wherein providing a plurality  
2       of pointers includes storing the plurality of pointers in a free pointer linked list.

1           3. (Original) A method according to claim 2, wherein associating the given  
2       pointer includes removing the given pointer from the free pointer linked list.

1           4. (Original) A method according to claim 3, wherein associating the given  
2       pointer further includes storing the pointer in a given queue linked list.

1           5. (Original) A method according to claim 4 further including:  
2       removing the given pointer from the queue linked list and adding the given  
3       pointer to the free pointer linked list to delete a member of the given queue.

1           6. (Original) A method according to claim 5, wherein the given queue is a  
2   FIFO queue.

1           7. (Original) A method according to claim 5, wherein the given queue is a  
2   LIFO queue.

1           8. (Original) A method according to claim 4 wherein the free pointer  
2   linked list and the given queue linked list are stored in a given data structure.

1           9. (Currently amended) A computer program product for use on a  
2   computer system for managing a plurality of queues, ~~employing within~~ a shared  
3   data buffer, the computer program product comprising a computer usable medium  
4   having computer readable program code thereon, the computer readable program  
5   code including program code for:  
6           providing a plurality of pointers to the data buffer, each pointer associated  
7   with an area of the buffer; and  
8           creating a given queue in the plurality of queues by associating a given  
9   pointer from the plurality of pointers with the given queue;  
10          wherein a given area of the data buffer can be assigned to the given queue  
11   and then reassigned to a different queue in the plurality of queues at a later time.

1           10. (Original) A computer program product according to claim 9, wherein  
2   providing a plurality of pointers includes storing the plurality of pointers in a free  
3   pointer linked list.

1           11. (Original) A computer program product according to claim 10,  
2   wherein associating the given pointer includes removing the given pointer from  
3   the free pointer linked list.

1           12. (Original) A computer program product according to claim 11,  
2 wherein associating the given pointer further includes storing the pointer in a  
3 given queue linked list.

1           13. (Original) A computer program product according to claim 12 further  
2 including:  
3           removing the given pointer from the queue linked list and adding the given  
4 pointer to the free pointer linked list to delete a member of the given queue.

1           14. (Original) A computer program product according to claim 13,  
2 wherein the given queue is a FIFO queue.

1           15. (Original) A computer program product according to claim 13,  
2 wherein the given queue is a LIFO queue.

1           16. (Original) A computer program product according to claim 12 wherein  
2 the free pointer linked list and the given queue link list are stored in a given data  
3 structure.

1           17. (Currently amended) A device for managing a plurality of queues in a  
2 computer system, the device comprising:  
3           a shared data buffer;  
4           a pointer array pointing to a plurality of areas of the data buffer, wherein a  
5 given area of the data buffer can be assigned to the given queue and then  
6 reassigned to a different queue in the plurality of queues at a later time;  
7           a free list data structure including an entry count, a head pointer to the data  
8 buffer and a tail pointer to the data buffer;

9           a queue state including a plurality of virtual queue data structures, each  
10 queue data structure including a queue entry count, a queue head pointer and a  
11 queue tail pointer, the queue head pointer and the queue tail pointer pointing to  
12 areas of the data buffer; and  
13           logic for deleting an entry from the free list data structure and adding the  
14 entry to a given virtual queue data structure.  
15

1           18. (Original) A device according to claim 17, the device further  
2 comprising:  
3           logic for deleting an entry from a given virtual queue data structure and  
4 adding the entry to the free list data structure.